MBARARA ARCHDIOCESE

PRE - PRIMARY LEAVING EXAMINATION 2024

MATHEMATICS

MARKING GUIDE

SECTION A (40 MARKS)

1 Work out: 48 ÷ 8

$8\overline{)48}$ → 06 → 0↓ → 48 B2

40 ÷ 8 = (40 ÷ 8) + (8 ÷ 8)

5 + 1 = 6 B2

2 Write "Eighteen- thousand, two hundred forty four" in figures.

18000 ✓

244 ✓

\+ 4 ✓

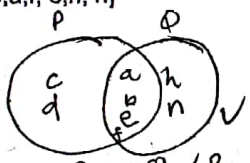
18,244 ✓ B2

3 Given that;

Set P = {a, b, c, d, e, f}

Q = {b, a, f, e, h, n}

Find n(PnQ)



P ∩ Q = {a, b, e, f} ✓ B1

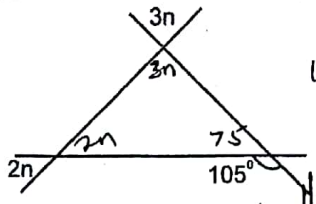
n(P ∩ Q) = 4 ✓ B1

4 A pupil scored the following marks in a weekly mathematics test as follows 5,4,7,5,3 and 2. Find the pupil's modal mark.

Mark	Tallylines	Frequency
2	/	1
3	/	1
4	/	1
5	//	2
7	/	1

Modal mark = 5 ✓ B2

5 Find the value of n in the diagram below.



180° − 105° = 75°

2n + 3n + 75° = 180° ✓ M1

5n + 75° = 180°

5n + 75° − 75° = 180° − 75°

5n = 105°

$\frac{5n}{5} = \frac{105}{5}$

n = 21° A1

3n + 3n = 105 M1

5n = 105

$\frac{5n}{5} = \frac{105}{5}$

n = 21 B1

6. Simplify: 4-3(2-d).

4 − 6 + 3d M1

−2 + 3d A1

4 − 6 + 3d ✓ M1

3d + 4 − 6

3d − 2 ✓ A1

7. Write a quarter past mid night in 24-hour clock.

12:15am

12:15 M1

12:00

00:15 hours. A1

8. Work out $(4\times10^3)+(5\times10^2)+(3\times10^{-2})$

(4 × 10 × 10 × 10) + (5 × 10 × 10) + (3 × 1/10²) M1

4000 + 500 + 3 × 1/10 × 1/10

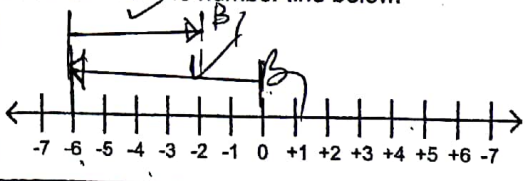
4000 + 500 + 3/100

4000 + 500 + 0.03

4000.00 + 500.00 + 0.03

4500.03 A1

9. Show -6+⁺4 on the number line below.



10. Write 194 in Roman Numerals.

194

100 = C ✓

90 = XC ✓

\+ 4 = IV ✓

194 = CXCIV B2

11. A motorist uses 8 litres of petrol to cover 32km. Find the number of litres of petrol he can use to cover 72km.

8 litres take 32km
1 litre takes $\frac{32}{8}$ km
? litre take $\frac{32}{8} \times 72$ M1
$= 18$ litres A1

12. Find the circumference of a circle whose radius is $3\frac{1}{2}$ cm (Use $\pi = \frac{22}{7}$)

$C = 2\pi r$
$C = 2 \times 22 \times \frac{7}{7}$ cm M1
$C = 22$ cm. A1

13. Find the next two number in the sequence below.
2,5,8,10,12,15, 18, 20, 22 B1 B1
+3 +3 +2 +2 +3 +3 +2 +2

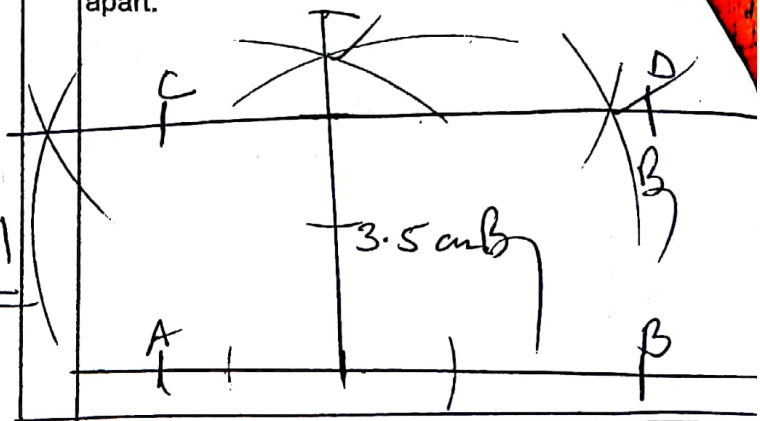
14. Find the speed in kilometres per hour that Bukoyo runs around a foot ball field, if he is to cover a distance of 60km in 90minutes.

$S = D \div T$
$S = 60\text{km} \div 90\text{h}$ M1
$S = \frac{60\text{km}}{90\text{h}} \times \frac{60}{90}$
$S = 20\text{km} \times 2\text{h}$
$S = 40\text{km/h}$ A1

15. Work out: (10.5x61) + (39x10.5)

$10.5(61+39)$ M1
$10.5(100)$
$\frac{105}{10} \times 10$
$105 \times 10 = 1050$ A1

16. Using a pair of compasses, a ruler and apencil only, construct line AB parallel to line CD 3.5cm apart.



17. Given that m=n and n=4, d=2, Find the value of 3d(m ÷ d)

$3 \times d(\frac{m}{d})$
$3 \times 2(\frac{4}{2})$ M1
$6(2)$
$6 \times 2 = 12$ A1

18. The L.C.M of two numbers is 72 and their G.C.F is 6, find the second number, if the first one is 18.

2nd no. $= \frac{72 \times 6}{18}$ M1
4×6
$= 24$ A1

19. The cost of one Kenya shillings is equivalent to Uganda shillings 36, find the cost of 108 Kenya shillings in uganda shillings.

108×36 M1
0648
+3240
Ug.sh.3888 A1

20. Simplify $\frac{3}{4} \times \frac{12}{9}$

$\frac{3 \times 12}{4 \times 9} = \frac{36}{36}$ M1

$= 1$ A1

$\frac{3}{1} \times \frac{12}{9}$ M1

$= \frac{4}{1}$

$= 1$ A1

(c) Find the probability of picking a pupil who eats only one type of food. **(01 marks)**

$9 - m + 6 + 2 + m + 3$

$9 - 3 + 6 + 2 + 3 + 3$

$6 + 6 + 2 + 6 = 20$

$= \frac{6+2}{20}$

$= \frac{8}{20}$ B1

(22) (a) Work out $133_{five} \times 42_{five}$ **(02 marks)**

$4 \times 3 = 12$

$5 \overline{)12}$ 2 r 2

$(3 \times 4) + 2$

$12 + 2 = 14$

$5 \overline{)14}$ 2 r 4

133×42 M1

$03\ 21 + 24\ 20$

$3\ 2\ 41$ five A1

$3 \times 2 = 6$

$5 \overline{)6}$ 1 r 1

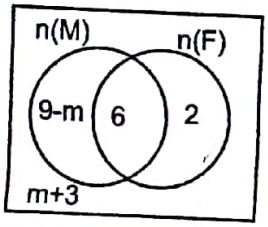
$(3 \times 2) + 1$

$6 + 1 = 7$

$5 \overline{)7}$ 1 r 2

SECTION B (60 MARKS)

21 The venn diagram below shows the number of P.7 candidates who eat meat (M) and fish (F).



(a) If 8 pupils do not eat meat, find the value of m. **(02 marks)**

$m + 3 + 2 = 8$ M1

$m + 5 = 8$

$m + 5 - 5 = 8 - 5$

$m = 3$ A1

(b) Find the total number of pupils who eat only and neither. **(02 marks)**

$2 + (9 - m) + (m + 3)$

$2 + 9 - 3 + 3 + 3$ M1

$2 + 6 + 6 = 14$ pupils A1

(b) The table below shows addition in base two, study it carefully and complete. **(03 marks)**

+	0	1	2
0	0	1	10 B1
1	1 B1	10 two	11 two
2	10	11 two	100 two

B1

$0 + 2 = 2$

2

$= 1$ r 0

$1 + 0 = 1$

$2 + 1 = 3$

1 r 1

$2 \overline{)3}$

23 (a) The interior angle of a regular polygon is 100^0 more than its exterior angle. Find the size of each interior angle.

ext ∠ + int ∠ = 180^0 **(03 marks)**

$g + g + 100^0 = 180^0$ M1

$2g + 100^0 = 180^0$

$2g + 100^0 - 100^0 = 180^0 - 100^0$

$\frac{2g}{2} = \frac{80^0}{2}$

$g = 40^0$ A1

int ∠ = $40 + 100$

$= 140^0$ B1

3

b. Find the interior angle sum of the polygon. **(02 marks)**

No of sides = 360°/40° = 9

Sum = 140° × 9 = 1260° B1

180(n−2) 180(9−2) 180(7) M1

180 × 7 = 1260° A1

24. The average weight of four men, Mudi, Medi, Musa and Abdul is 56kg, when Phillip and James joined the group, the average weight became 52kg. The weight of Phillip is 8kg less than James. Find the weight of Phillip. **(05 marks)**

56 × 4 = 224kg B1

52 × 6 = 312kg B1

312 − 224 = 88kg

t + t − 8 = 88kg M1

2t − 8 = 88kg

2t − 8 + 8 = 88 + 8kg

2t/2 = 96kg/2

t = 48kg B1

Phillip = 48 − 8 = 40kg B1

25. Mariam went for shoping and bought the following items as shown in the table below. Complete the shopping bill table. **(05 marks)**

Items	Quantity	Unit cost	Amount
Posho	3kg	sh. 4800 per kg	sh 14400 B1
Sugar	500 gms B1	sh. 5,000 per kg	sh. 2500
Rice	2½kg	sh. 1200 B1 per kg	sh. 3000
Cooking oil	2500ml	sh. 3000 per half litre	sh 15000 B1
Total expenditure			sh 34900 B1

14,400
02500
03000
+ 15,000
34,900

Posho = 4800 × 3 = 14,400

Sugar = 2500/5000 = 1/2 × 1000 = 500

Rice = 3000 ÷ 2½ = 3000 ÷ 5/2

3000 × 2/5 = sh. 1,200

Oil = 2500/1000 × 3000 × 2

= 2500 × 6 = sh. 15,000

26 A business woman borrowed some money from the bank at a simple interest of 10% per annum for 2years and 6months, if she paid an interest of sh. 18,000. Find the total amount of money she would pay at the end of 2years and 6months. **(05 marks)**

12 + 6 = 18 months

SI = P × T × R

18,000 = P × 18/12 × 10/100 M1

18,000 = 3P/20

20 × 18000 = 3P × 20/20

20 × 18000/3 = 3P/3

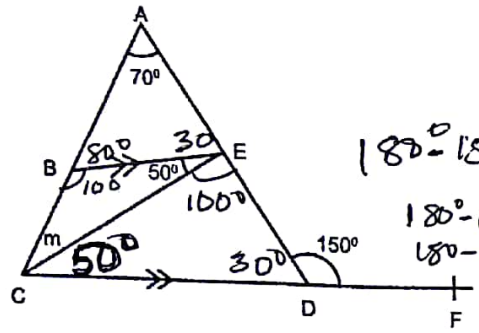
120,000 = P A1

A = P + SI

A = 120,000 + 18000 M1

A = sh. 138,000 A1

27 Studay the diagram below and answer the questions that follows



180° − 150° = 30°

180° − (50 + 30)

180 − 80 = 100°

27 (a) Find the value of m. **(02 marks)**

M + 50° + 70° = 150° M1

M + 120° = 150°

M + 120° − 120° = 150° − 120°

M = 30° A1

4

b. Calculate the size of the angle marked DEB (02 marks)

$\angle DEB = 100° + 58°$ M1

$\angle DEB = 158°$ A1

28. Below is a time table for the bus travels from Kabale to Mbarara.

Town	Arrival time	Departure time
Kabale		8:45am
Ntungamo	9:25am	9:35am
Bujaga	10:20am	10:40am
Mbarara	12:15pm	

(a) Find the total time taken while resting. (03marks)

at Ntungamo = 9:35 − 9:25 = 0:10 min B1

at Bujaga 10:40 − 10:20 = 20min B1

10 + 20 = 30min B1

or

10 + 20 = 30

= 30/60

= 1/2 h.

(b) Find the average speed for the whole journey, if the distance from Mbarara to Kabale is 175km. (03marks)

Time taken 12:75 − 08:45 = 3:30 (60+15)

AVS = D/T

AVS = 175 ÷ 3½ hr M1 = 350/60 = 3½ B1

AVS = 175km ÷ 7/2 h

AVS = 175/7 × 2 h

AVS = 25km × 2 h

AVS = 50km/h A1

29. (a) Solve 3-(n-1)=2(n+5) (03 marks)

3 − n + 1 = 2n + 10 M1

3 + 1 − n = 2n + 10

4 − n = 2n + 10

4 − 4 − n = 2n + 10

−n = 2n + 6

−n − 2n = 2n − 2n + 6 M1

−3n = 0 + 6

−3n/−3 = 6/3

n = −2 A1

(a) Given that a=4 and b=−3, find the value of $\frac{4a - 3b}{2a + b}$ (03 marks)

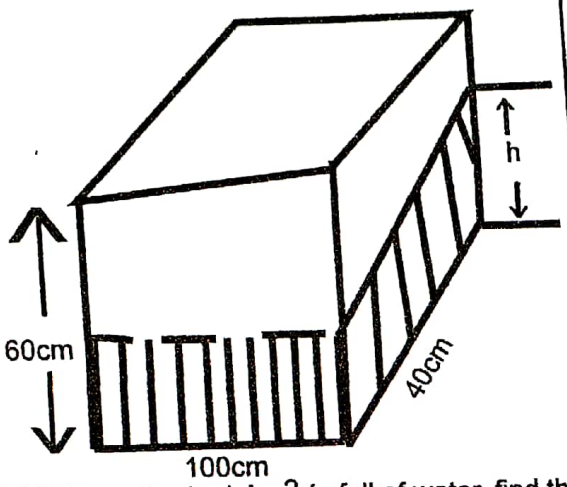
$\frac{(4\times4) - (3\times-3)}{(2\times4) - (-3)}$ M1

$\frac{(16) - (-9)}{(2\times4) + (-3)}$

$\frac{16 + 9}{8 - 3} = \frac{25}{5}$ M1

= 5 A1

30. Study the diagram below and use it to answer the questions that follow.



(a) If the water tank is $\frac{2}{3}$ full of water, find the value of h.

(02 marks)

$h = \frac{2}{3} \times 60\,cm$ M1

$h = 2 \times 20\,cm$

$h = 40\,cm$. A1

(b) Calculate the remaining number of litres to fill the whole tank.

(03 marks)

$V = l \times w \times h$ $60cm - 40cm = 20cm$

$V = 100cm \times 40cm \times 20cm$ M1

$V = 80000cm^3$. A1

No of litres $= \frac{80000cm^3}{1000cm^3}$

$= 80$ litres A1

31. Martha, Agatha, Mary shared mangoes in the ratio of 3:5:7 respectively.

(a) If Mary got 120 more mangoes than Martha, Find the number of mangoes they shared.

(03 marks)

$7 - 3 = 4$ B1 $3 + 5 + 7 = 15$

4 parts rep. 120

1 part rep $\frac{120}{4}$

15 parts rep. $\frac{120}{4} \times 15$ M1

450 mangoes A1

(b) Calculate the number of mangoes that Martha and Agatha got.

(02 marks)

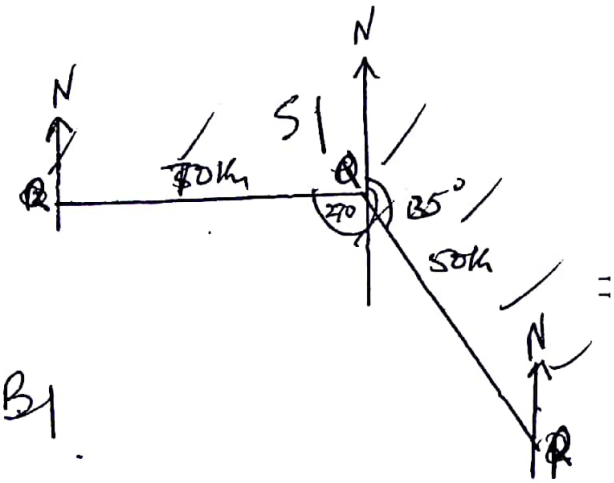
$\left(\frac{3}{15} + \frac{5}{15}\right) \times 450$

$\frac{8}{15} \times 450^{30}$ M1

$8 \times 30 = 240$ mangoes A1

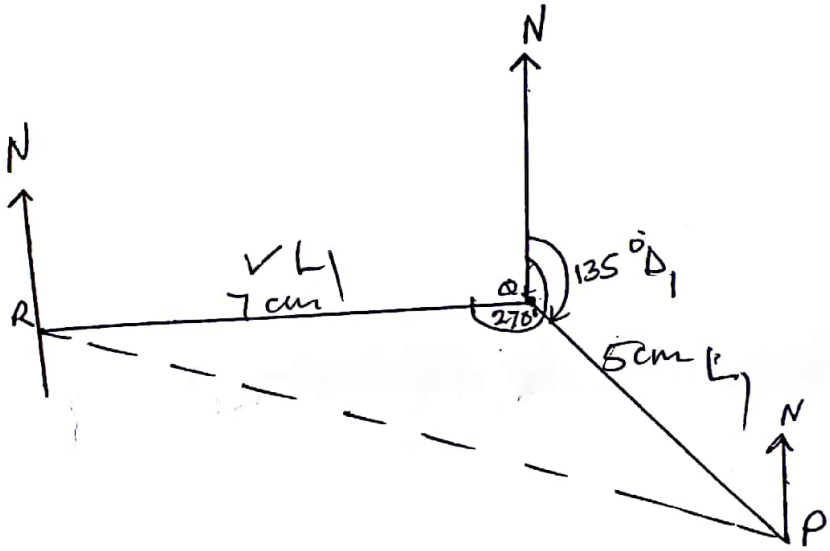
32. Town P is 50 km from town Q on a bearing of 135°. Town R is 70 km from town Q on a bearing of 270°.

(a) Using ascale drawing of 1cm to represent 10km, draw an accurate diagram for the above information. **(05 marks)**



$QP = \frac{50}{10}$ $QR = \frac{70}{10}$

$QP = 5cm$ ✓ $QR = 7cm$ B1



(b) Find the shortest distance in km from town R to town P. **(01marks)**

10.9cm x10 = 109km ✓

11cm x10 = 110km. B1

11.1cm x10 = 111km ✓

END

7